Gardiner's Mill,
East Hampton, Long Island,
New York.
Suffolk Co

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

District No. 4
Southern New York State

Historic American Buildings Survey
Wm. Dewey Foster, District Officer,
25 West 45th Street, New York City.

GARDINER'S WINDMILL

MAIN STREET, EASTHAMPTON, SUFFOLK CO., LONG ISLAND, N.Y.

Location, Date and History

"Built before the United States was born" is the truthful legend beneath a view of Gardiner's Windmill, at East Hampton, L. I., which was published in the Rotogravure Picture Section of The New York Times, on Aug. 2, 1931. It was constructed in 1771 for Abraham Gardiner, and is believed to be on its original site, which was the home lot of the first Lion Gardiner, proprietor of Gardiner's Island, who lived on his East Hampton place in his old age, having removed there from the Island. (Data by courtesy of Miss Ethel C. Hedges, librarian of the East Hampton Library.)

Three other East Hampton windmills are shown in the Times grouping of pictures, all quite similar in general appearance, excepting that which once formed part of the Kiliaen Van Rensselaer house and is almost entirely covered by vines. One of the others is in the kitchen yard of the homestead of John Howard Payne, the author of "Home, Sweet Home," and is now owned by the village in connection with the Payne Memorial. The remaining one appearing in that group of pictures stands in Memorial Park; it was built in 1796 for Nathaniel Dominy the clock-maker, and operated what was originally known as the Hook Mill, famous for the quality of its flour.

These mills, and others found in Massachusetts, Connecticut, other parts of Long Island, and elsewhere in the United States, are so picturesque, and so significant of the physical labors, the industrious enterprise of some of our forbears that they are favorite subjects for illustration and description.

Gardiner's Windmill, now the property of Lion Gardiner's descendant,

Winthrop Gardiner, is the oldest in East Hampton, and has an exceptionally beautiful setting as viewed from Montauk Highway. It is just east of Maidstone Lane, and has the Pond and Village Burying Ground in the foreground--a vision of serenity!

Other groupings of American windmill views, including Gardiner's, have been published with descriptive legends in the New York Herald Tribune for Aug. 10, 1930; and in Sunrise, a magazine of Long Island, for October, 1931. A most interesting detail is the interior machinery, built almost entirely (including the big cog-wheels) of wood.

One of the best descriptions of "The Windmills of Long Island" was written by an Englishman, Rex Wailes, and printed under that title in Milling, a magazine published in Liverpool. He writes from the vantage ground of one familiar with the older windmills of England, and his point of view is so unusual and detached that we quote from this out-of-the-way source, obtainable in few American libraries:

> Old fashioned windmills in America! It sounds unlikely, yet they are to be found on Long Island and the nearest is no more than 80 miles from New York. Long Island runs eastwards from New York for 120 miles, looking on the map like a stag beetle, its horns pointing east; and on its southern horn, are the windmills- a round dozen of them, all preserved in greater or less degree of completion and repair, and two kept ready for work. This part of Long Island, settled by people from the east and south of England, was largely agricultural until the advent of the motor car increased its popularity as a holiday district, and its beautiful villages seem to be completed only by the presence of windmills. Their preservation has come about in three ways: They have been bought by or presented to their villages, or they have been bought by wealthy people for use as summerhouses, or they have remained in the hands of the descendants of their former owners, who have preserved them for sentiment and interest.
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> In accord with a very definite local tradition, these mills are of the type known in England as "smock mills," from their fancied resemblance to the old fashioned smock. On top of an octagonal wooden tower, is mounted the cap which carries the sails. It can be turned around so that the sails can face the wind from whatever direction it blows. The towers have three floors and average about 22 feet across at the bottom and 15 feet at the top; the height to

the top of the cap is between 30 and 40 feet. The cap and tower are covered with split shingles of cedar or pine. Four sails of about 60 feet span are the rule and are of the type known in England as common sails, the sail frames being spread with sail-cloth when the mill is at work. The mills are not built on foundations, but are levelled with rocks under their eight oaken corner posts; and being comparatively small, it is not surprising to find that many have been moved from place to place in the course of their existence.

Mr. Wailes publishes views and brief descriptions of six:--one, the oldest (1713), moved from Southampton to Shinnecock Hills; one in Bridgehampton, one in Watermill, and three in East Hampton. So many in the latter village is a record, he says, "that can only be equalled in England by Alford, in Lincolnshire."

Of Gardiner's mill, his information is that the owner is "a descendant of the John Lyon Gardiner, who had the mill built in 1771, and also had Gardiner's Island mill built in 1795, both standing today ready for work." He quotes a note written by John L. Gardiner which has come down to us:

> "New Windmill was raised Monday, May 23rd, 1795. Nat. Dominy, Junr., Master Workman, Jona Skillinger, etc., from Annagansett came to assist old Mr. N. Dominy. The old Petticoat mill built by Mr. R. Homan for Mr. David Gardiner was crazy and gone to decay. Very little care was taken of her in the war from 1775 to 1782." The cost seems to have been 309/7/-.

There appears to be, in the foregoing information, derived from the various sources cited, some confusion in the name of the member of the Gardiner family who ordered the building of this old mill; but "it is all in the family," and the genealogist can best explain the discrepancies of attribution as a conveyancer would trace the title to the land.

How a Windmill Operates

We have another authority on Long Island windmills, Edward F. Buffet. Grist-mills they all are, as we see when we examine their mechanism; and Mr. Buffet has made a [illegible] study of their internal construction

and operation, and published the results of his research in American Machinist for Oct. 17, 1918 (Vol. 49, no. 16). He says in part:

"It seems incredible that the friction of this huge, clumsy wooden mechanism can be so overcome as to let it move under any power whatever without racking the mill to pieces. Let a light breeze against a few yards of cloth suffices to turn the mill and some have even been known to revolve with the pressure of the wind on their bare slats.

"In a full gale, says Mr. Hand, of Wainscott, a windmill is supposed to yield 50 hp. One disadvantage in windmills was caused by the variation of the wind, but this has been greatly overcome by the installation of an automatically worked director wheel.

"The woodwork of the mills is largely oak, white oak especially being popular; the wheel cogs are hickory, as also the brake strip. Buhrstones for grinding flour are quarried in France.... These were worth $130. a pair and weighed 2200 lb. each, presumably, and were balanced with lead. To be effective they had to run at 120 revolutions per minute.... Near the Gardiner mill lies an old stone which burst at 160 r.p.m. Ten bushels an hour, said Mr. Griffing an aged miller of Shelter Island, constituted a good day's work...."

Mr. Buffet's article is accompanied by reproductions from photographs and drawings to show the interior machinery of various windmills on Block Island, Cape Cod, and Shelter Island, as well as Long Island.

"Each of the present Long Island mills is octagonal and contains three stories, the two flights of stairs generally being arranged to suggest the winding steps of a lighthouse. The arms which carry the latticework for the adjustably outspread canvas are mortised through the thick wooden shaft, each pair in a different place for obvious structural reasons. The entire head, or dome, revolves on iron rollers and is held

central by inside horizontal ones...."

The gear for turning the dome is then described; also the brake, the crane for lifting the millstones, and that most interesting feature--the governors which regulate the pressure of the stones and the quantity of grain fed to them. No detailed description is given of the auxiliary mechanism,--the bolting machinery and its drive, the corn shellers, or the homemade hoist by which the miller relieved himself of the labor of carrying the bags upstairs on his back.

Architecture of the Gardiner Mill

The south and west elevations are shown on the accompanying drawings (Sheet No. 3). The mill stands on a small knoll about three feet above the level of the ground, making it possible to catch more of the wind.

This mill is of the hand-operated, top-turning variety, and covered with modern shingles. It has simple wood batten doors, and shutters on the three stories. A weather-vane of sheet metal stands on the roof above the dormer window which has wood shutters hung in a frame, opposite the dormer through which the wind shaft passes. On the vane is the date 1771, and was presumably set up when the mill was built.

The oak framing is the original. Each of the eight corner-posts rests upon a stone pier. These piers are laid dry (without cement). The posts extend continuously from the foundation to the third floor wall-plates, with a pitch of 1 7/20 feet in each 12 feet of height, or 2 14/20 feet off the vertical. The height from the ground to the peak of the roof is 36 feet 6 inches.

Examining the interior construction, one is struck by the evident skill of the ship-carpenter or old-time joiner. On the oak corner-posts is a quarter-inch beading--a little refinement of detail. These posts are polished, either by design or use, and show the beautiful grain

of the wood.

The three stories have their windows arranged irregularly at places where light is needed. Grain is taken in on the first floor, and hoisted by hand-windlass through a trap-door in the floor to the second story, where it is fed into hoppers, one for wheat and the other for corn. This is a "two-stone mill," having the usual two grindstones for each hopper. These stones are the imported French burrstones. (Webster says that, etymologically, the spelling burrstones or burstone is preferable to buhrstone.) By defirition the burrstone is any siliceous rock used as a material for millstones, especially a rock of a cellular structure found in the Eocene system. The French product is found best for hard usage in a grist-mill. The top stone is known as the runner-stone. It turns as the windshaft turns, propelled by the sails attached to the "points" or wood-framed arms which revolve by wind-power.

The roof-plate turns on iron rollers which follow an iron track on the wall-plate. The crown wheel, bolted to the roof-beams, is set with hickory teeth, and is turned by the trundel which is operated by the top-turning shaft from the first floor. This sets the "points" into the wind. There is a hickory brake-shoe on the brake-wheel which controls the operation of the mill by stopping the revolutions of the windshaft or permit it to revolve.

After the grain has been ground, it is fed down from the millstones to a bolter on the first floor, which has "bolts" covered with silk operating to sift the flour into grades of fineness. (From field-notes of architects of the present survey.)

Written, June 7, 1934, by
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Approved:

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Reviewed 1936
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